2006 IRC Code Update Training

Welcome

2006 International Residential Code

Update Training

Presented by

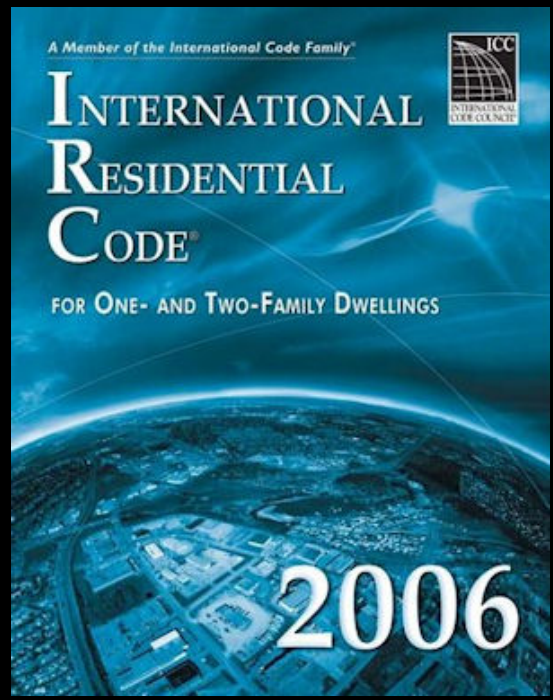
Chesterfield County

Department of Building Inspection Staff

2006 IRC Code Update Training

Welcome

2006 International Residential Code will become effective MAY 1, 2008



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Welcome

Please Note…

- The topics covered in this module are highlights of the most relevant code changes between the 2003 and 2006 editions of the IRC.
- Please refer to your 2006 IRC for the exact code language.

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Chapter 3: Building Planning

Planning ahead!

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R303.6.1 Light activation

2003 IRC:

A light switch was required at the top and bottom of every stairway, regardless of the length.

2006 IRC:

A light switch is only needed at each floor level where the stairway has 6 or more risers.

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R308.4 Hazardous glazing locations

2003 IRC - Exception 4:
A window located on a wall perpendicular to the plane of the door was not required to be safety glazed.

2006 IRC - Exception 4:
A window located on a wall perpendicular to the plane of a door toward which the door swings now is required to be safety glazed.

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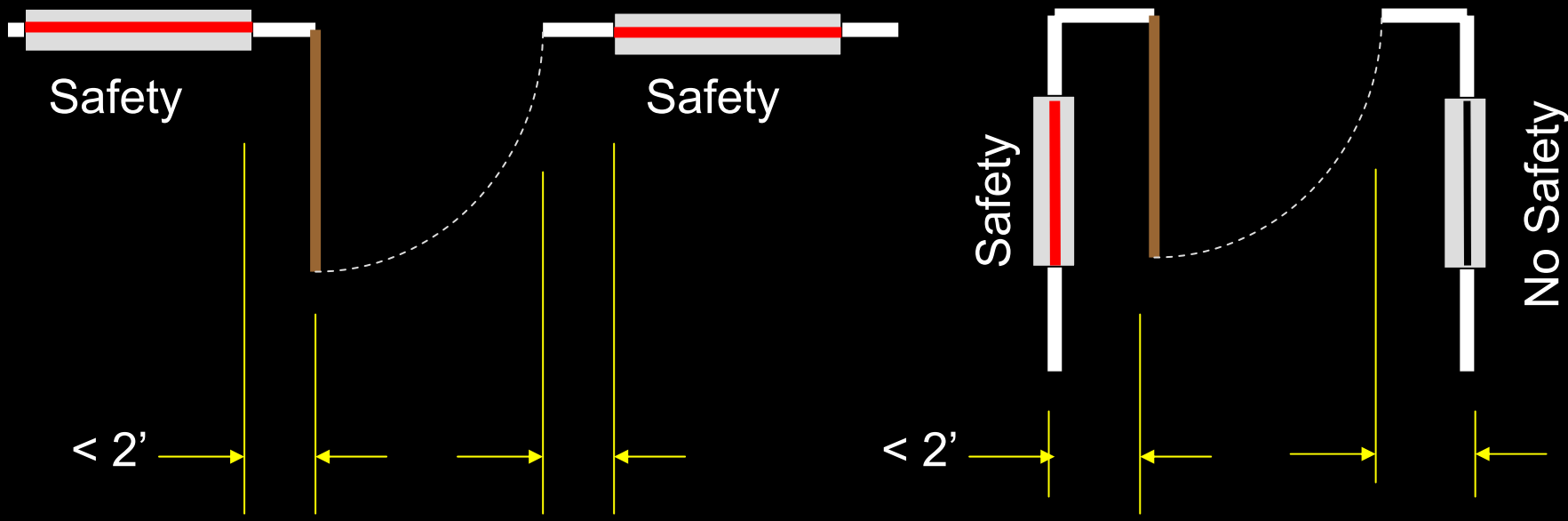
R308.4 Hazardous glazing locations

No change

New



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R308.4 Hazardous glazing locations

Keep in mind…

- The above situation is a typical application.
- Other glazing requirements in Section R308.4 still may dictate safety glazing.

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R308.4 Hazardous glazing locations

2003 IRC - Locations 10 & 11:
A window adjacent to a stairway had to be safety glazed if it was within 60” of the floor or landing.

2006 IRC - New Exception 9.3:
A window adjacent to a stairway does not have to be safety glazed if it is at least 34” above the floor or landing.

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R308.4 Hazardous glazing locations

Safety glazing required

Safety glazing not required

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R308.4 Hazardous glazing locations

Safety glazing not required

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R309.2 Garages - separation required

IRC 2003 – R302.1:

For detached garages within 5’ of the house, the parallel exterior wall was required to have 1 hour fire resistive construction.

IRC 2006:

For detached garages that are less than 3’ from the house, the parallel wall shall have ½” gypsum board applied to the inside of the garage wall.

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R309.2 Garages - separation required

- The provisions do not apply where the parallel walls of the house and garage are offset (i.e. do not align).
- The provisions do not apply where garage walls are perpendicular to the adjacent house wall.
- Door openings in these walls are still subject to the requirements of R309.1 making it the same as the current requirements between a garage and a dwelling.

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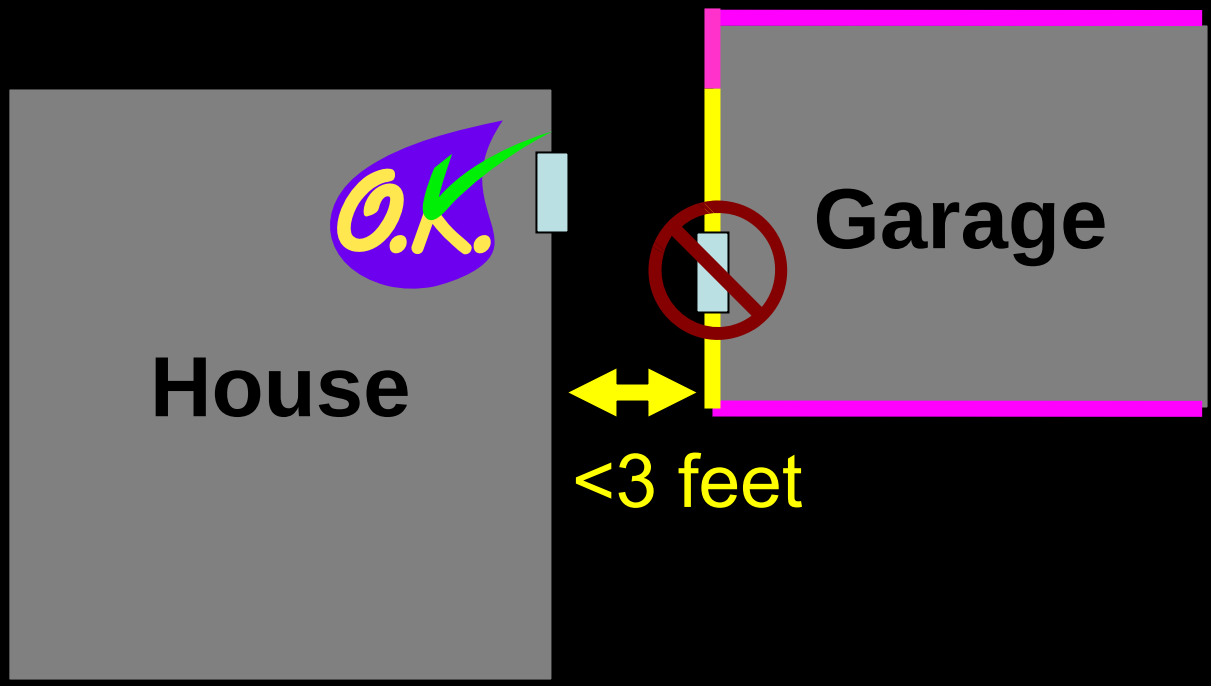
R309.2 Garages - separation required



Windows are not allowed on the garage wall.

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R310.1 Emergency Escape and Rescue Openings

2003 IRC:

A basement with habitable space was required to have an emergency escape and rescue opening.

2006 IRC:

Any *basement* is required to have an emergency escape and rescue opening that leads directly to a public way, yard or court unless:

- The total floor area is less than 200 square feet and
- The basement is only used to house mechanical equipment.

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R310.5 Emergency escape window

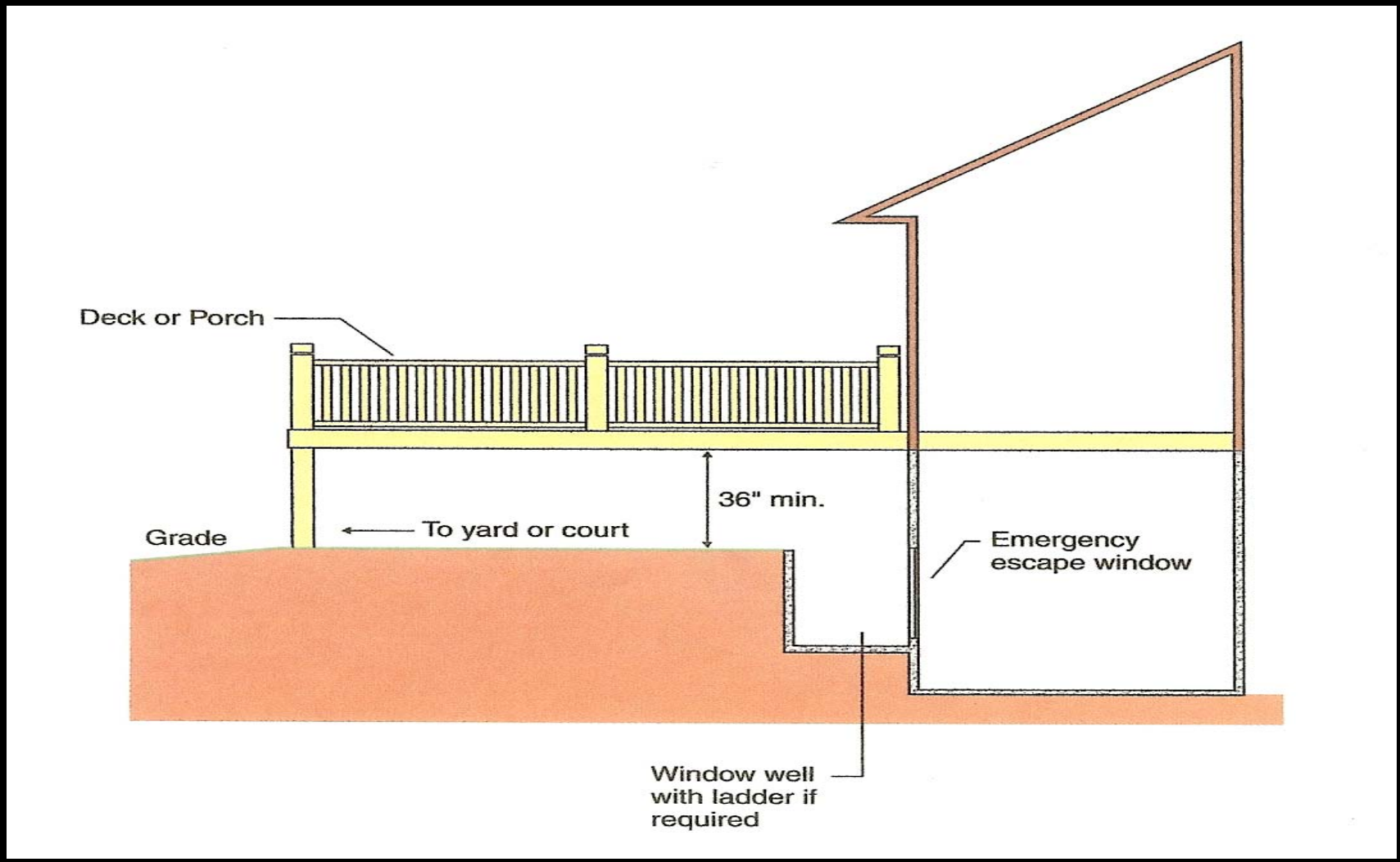
2003 IRC:

Not mentioned

2006 IRC:

An emergency escape window is allowed under a deck or porch, provided:

- The window can be fully opened and
- A minimum 36” high path is provided under the deck to a yard or court.



Emergency opening under decks and porches

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R311.4.3 Landings at Doors

2003 IRC:

The slope of the landing at an exterior door was not mentioned.

2006 IRC:

The landing at an exterior door may have a 2% slope.

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R311.4.3 Landings at Doors

2003 IRC:

A landing was not required on exterior side of a sliding door that had a stairway with 1 or 2 risers.

2006 IRC

A landing is not required on the exterior side of any door that has a stairway with 1 or 2 risers provided:

- The landing is not at the "required exit door", and
- The door does not swing over the stairs.
  - A storm or screen door is exempt and may swing over the stair.

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R613 Exterior windows and doors

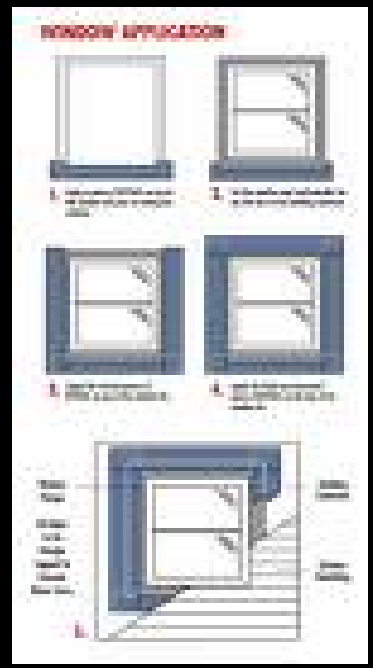
2003 IRC:

Waterproofing, sealing and flashing systems for windows were not covered.

2006 IRC:

Windows must be installed and flashed in accordance with the manufacturer's written instructions (which must be provided with each window).

(Requirements to flash openings remain unchanged.)



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R613 Exterior windows and doors

2003 IRC:

There was no minimum sill height.

2006 IRC

Where the opening of an operable window is more than 72” above grade, the sill height shall be a minimum of 18” above the floor (as amended by the V-USBC).

- Unless approved window guards are provided

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R613 Exterior windows and doors

No longer allowed
(without a guard)

Minimum 18” sill height

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Chapter 4: Foundations

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R401.3 Drainage

2003 IRC:

For lot drainage, where 6” of fall within 10’ (5%) was not attainable, a drain or swale had to be provided.

2006 IRC:

When 6” of fall in 10’ is not attainable, a drain or swale shall be provided.

- The swale will be within 10’ of the house, and have a minimum 2% slope.
- The entire lot must be graded so that there will be no standing water anywhere on the lot.

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R401.3 Drainage (continued)

- Impervious surfaces within 10’ of the foundation must have a minimum 2% slope.

  This means an asphalt or concrete driveway must slope away from the house for a distance of at least 10’.

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R404.1 Concrete and masonry foundation walls

2003 IRC:

Prescriptive requirements for foundation walls were provided.

2006 IRC:

Additional criteria has been added to this section for laterally supported foundation walls. Please refer to the 2006 IRC for detailed provisions.

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R404.5 Retaining walls

2003 IRC: Section 404.1.3

Retaining walls supporting more than 48” of unbalanced backfill required a design by a RDP.

2006 IRC:

All retaining walls that are not laterally supported at the top and retain more than 24” of unbalanced fill shall be designed to ensure stability against overturning, lateral sliding and water uplift.

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R404.5 Retaining walls

What does this mean?

All retaining walls with over 24” of unbalanced fill will now have to be designed and sealed by a RDP.

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R406.1 Concrete and masonry dampproofing

2003 IRC:

Dampproofing was required for foundation walls which enclosed habitable or useable spaces located below finished grade. (Did not include crawlspaces.)

2006 IRC:

Dampproofing is now required for **all** foundation walls, including crawlspace foundation walls where the interior grade is lower than the exterior finished grade.

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R406.1 Concrete and masonry dampproofing

Approved materials listed for dampproofing:

1. Bituminous coating,
2. 3 pounds/ sq yd of acrylic modified cement,
3. 1/8 inch coat of surface-bonding cement complying with ASTM C 887,
4. Any material permitted for waterproofing in R406.2,
5. Other approved methods or materials.

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R406.2 Concrete and masonry waterproofing

2003 IRC:

In areas with a high water table, waterproofing was required for foundation walls which enclosed habitable or useable spaces located below finished grade.

2006 IRC:

In areas with a high water table, waterproofing is now required for **all** foundation walls, including crawlspace walls where the crawl space grade is lower than the exterior finished grade.

NOTE: This means that the waterproofing application will be the same as the requirements for a basement.

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R406.2 Concrete and masonry waterproofing

Approved materials listed for waterproofing:

1. 2-ply hot mopped felts,
2. 55 pound roll roofing,
3. 6-mil. poly vinyl chloride,
4. 6-mil. polyethylene,
5. 40-mil. polymer-modified asphalt,
6. 60-mil. solvent free liquid applied synthetic rubber,
7. 60-mil. flexible polymer cement,
8. 1/8 inch cement based, fiber-reinforced, waterproof coating.

- **Dampproof**: If the crawl space grade is lower than the finished exterior grade.
- **Waterproof**: If the lot is located where a high water table is known to exist and the crawl space grade is lower than the finished exterior grade.

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R406.2 Concrete and masonry waterproofing

Solutions:

1. Get crawl space grade higher than exterior finished grade.
2. Increase the foundation height to accommodate more fill in the crawl.
3. Dampproof all foundations with low crawl spaces.
4. Waterproof all foundations with low crawl spaces when the building is in an area with a high water table.

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R408.3 Unvented crawl spaces

2003 IRC:

Unvented crawl spaces were not mentioned.

2006 IRC:

New prescriptive requirements are added for unvented crawl spaces, including the recirculation of conditioned air. This new material will be covered in the "Energy Conservation / Hot Topics" sessions to be presented in late May.

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Chapter 5: Floors

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R502.2.2.1 Deck ledger connection to band joist

2003 IRC:

Not mentioned

2006 V-USBC:

Pressure preservatively treated deck ledgers that are attached to the house band joist must be attached per Table R502.2.2.1.

- A deck ledger, where attached to wood members of the building framing, shall only attach to 2” nominal solid sawn pressure treated material.

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R502.2.2.1 Deck ledger connection to band joist

FASTENER SPACING FOR A RESIDENTIAL SOUTHERN PINE DECK LEDGER AND A 2-INCH NOMINAL SOLID SAWN BAND JOIST (50 PSF TOTAL LOAD)c

JOIST SPAN (FT)	6' AND LESS	6'1" TO 8'	8'1" TO 10'	10'1" TO 12'	12'1" TO 14'	14'1" TO 16'	16'1" TO 18'
On-Center Spacing of Fasteners d,e							
½" X 4" **LAG SCREWS** a,b	30	23	18	15	13	11	10
½" **Bolt with washers**	36	36	34	29	24	21	19

a. The maximum gap between the face of the ledger board and the face of the house band joist shall be ½"
b. The tip of the lag screw shall fully extend beyond the inside face of the band joist
c. Ledgers shall be flashed to prevent water from contacting the house band joist
d. Lag screws and bolts shall be staggered as set out in Section R502.2.2.1.1
e. Deck ledger shall be 2x8 PPT No. 2 Southern Pine (minimum) or other approved method as established by standard engineering practice

Note: There are "lag screws" and "thru-bolts". There is no such thing as a "lag bolt"

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R502.2.2.1 Deck ledger connection to band joist

- Lag screws or bolts shall be placed 2” from the bottom or top of the deck ledger and 2” from the ends
- Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger

Bolts installed 2” from the end and then staggered based on span of the joists according to the chart

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R502.2.2.1 Deck ledger connection to band joist

Please remember…

A deck ledger, where attached to wood members of the building framing, shall only attach to 2” nominal solid sawn pressure treated material.

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R506.2.4 Reinforcement Support

2003 IRC:

No mention

2006 IRC:

Slabs on grade provided with reinforcement shall have supports for the reinforcement in place prior to placement of concrete.

The reinforcement must be in the center to upper 1/3 of the slab.

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Chapter 6: Wall Construction

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R602.10 Wall bracing

2003 IRC:

Provided prescriptive wall bracing requirements.

2006 V-USBC:

Delete entire 2006 IRC - Section R602.10,

Replace it with V-USBC - Section R602.10.

Being proactive, DHCD moved many of the proposed 2009 IRC changes into the 2006 USBC

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R602.10 Wall bracing

Major changes:

- Plan preparers are required to draw BWLs on plans,
- Separated *intermittent* and *continuous* methods,
- Made *exceptions* and *alternates* entirely new methods,
- Changed from *method numbers* to *abbreviations*,
- Added procedure to handle *diagonal walls*,
- Eliminated all requirements for *seismic*,

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R602.10 Wall bracing

- Allowed to mix and match methods,
- Created new table for *Percentage of Bracing Required*,
- Created new table showing *bracing methods and requirements,*
- Created new table for *minimum length* of each intermittent method
- Created new table for *minimum length* of continuous OSB adjacent to an opening,

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R602.10 Wall bracing

This section applies to all

- New buildings,
- Additions,
- Conversions of decks and screened porches to Florida rooms
  - Screened porches are exempt.

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R602.10 Wall Bracing

Those portions of the building that cannot comply with this section shall comply with the:

- 2006 International Building Code, and
- ASCE 7

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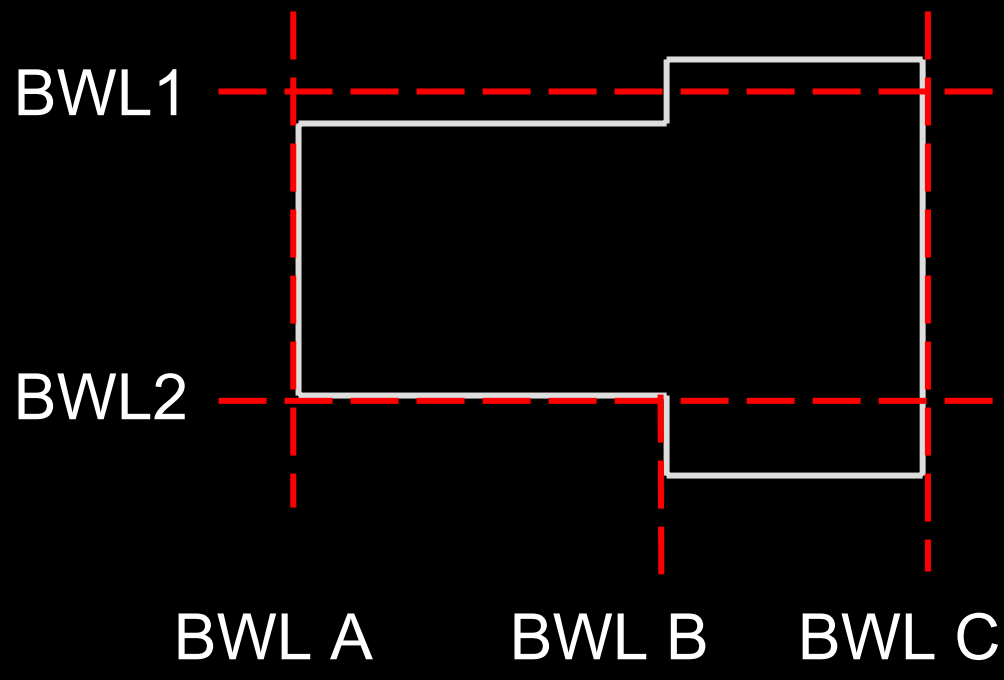
R602.10 Wall bracing

All braced wall lines (BWLs), shall be identified on plans for of each floor.



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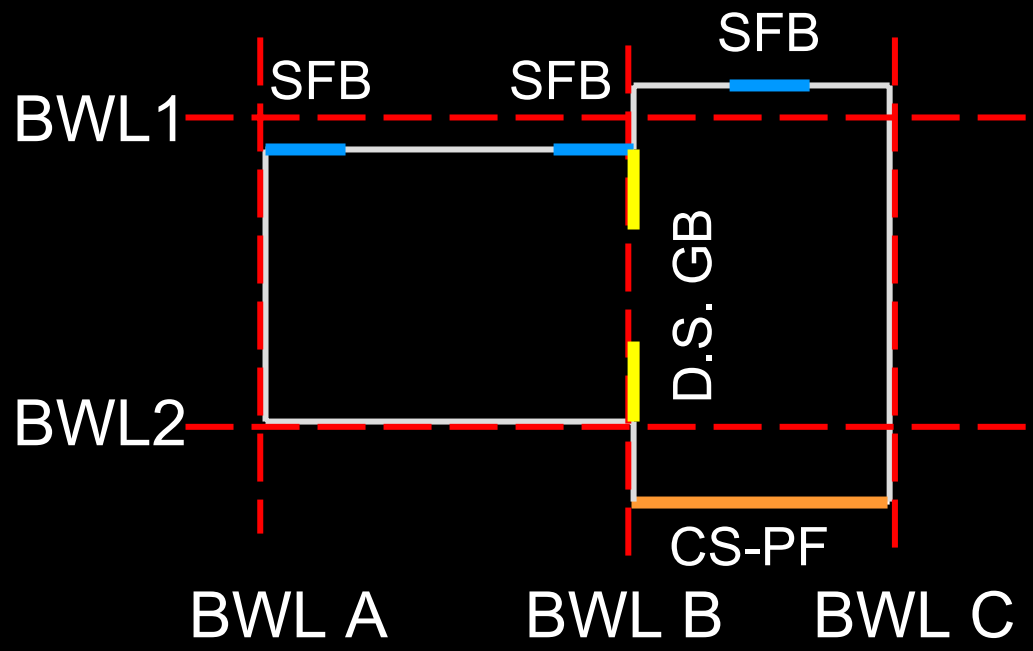
R602.10 Wall bracing

All bracing methods shall be identified and located on the plans for each floor.

Note: Intermittent methods must be exactly located.



Whole house is sheathed with CS-WSP except where shown otherwise

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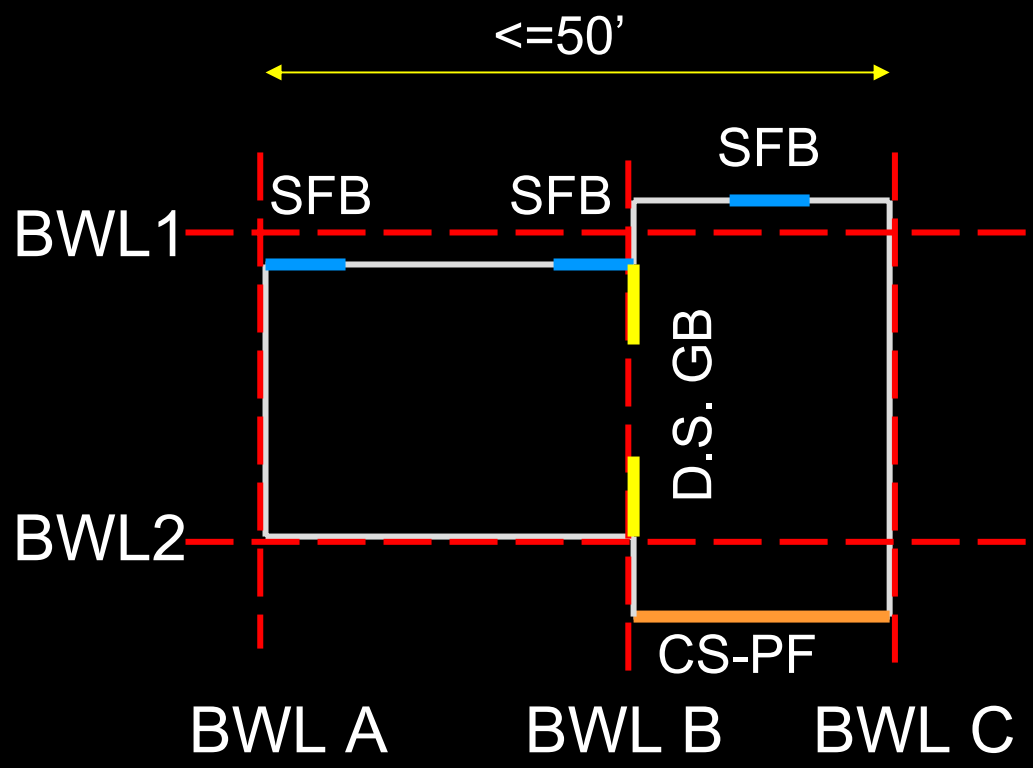
R602.101.1 Spacing of BWLs

Remember:

Maximum 50’ between BWLs, otherwise add additional BWL.



Whole house is sheathed with CS-WSP except where shown otherwise

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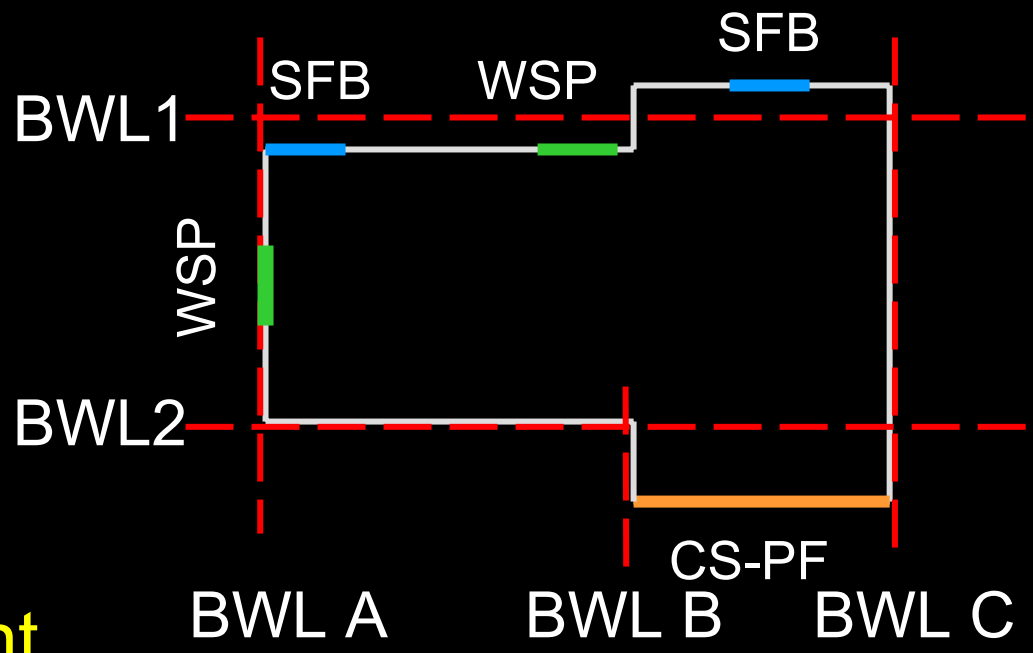
R602.10.1.2 Braced wall panels

Mixing methods allowed:

- From story to story,
- From BWL to BWL,
- Mixing intermittent panel methods along the same BWL
- Cannot mix intermittent and continuous methods on the same BWL



Whole house is sheathed with CS-WSP except where shown otherwise

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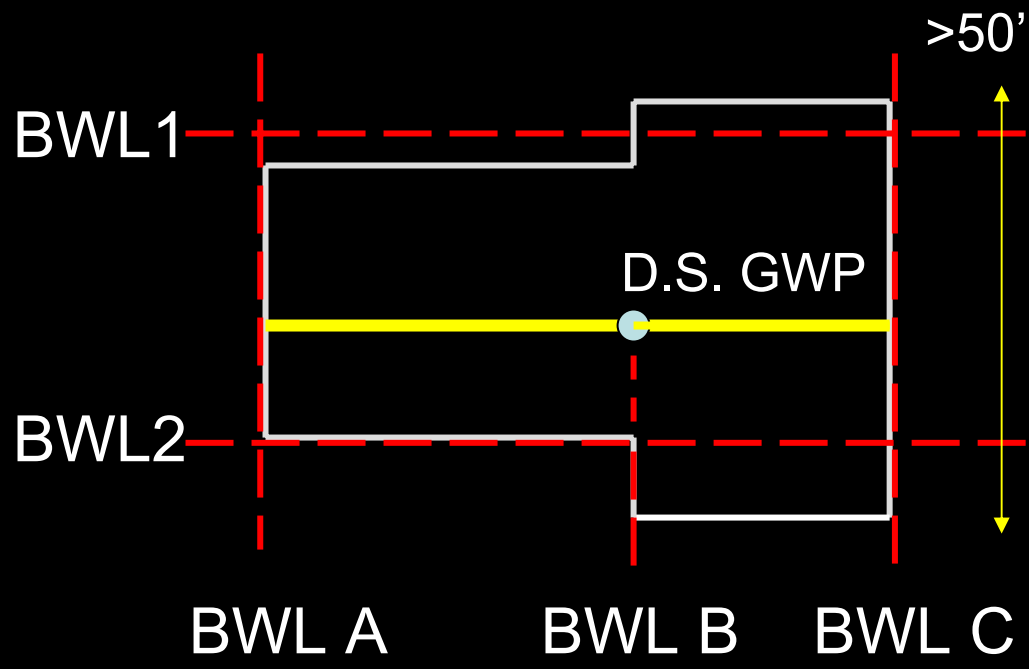
R602.10.1.3 Braced wall panel locations

- BWLs shall extend to another BWL *or its projection*



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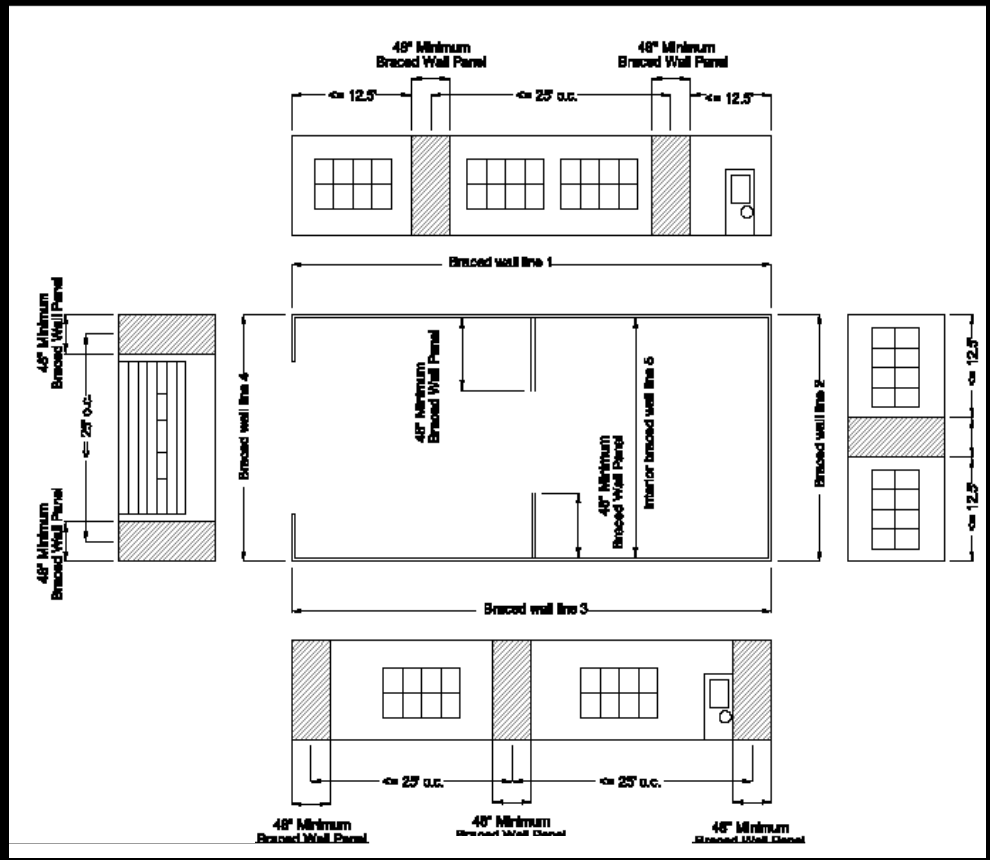
R602.10.1.3 Braced wall panel locations

New figure showing how the intermittent methods can be spaced.



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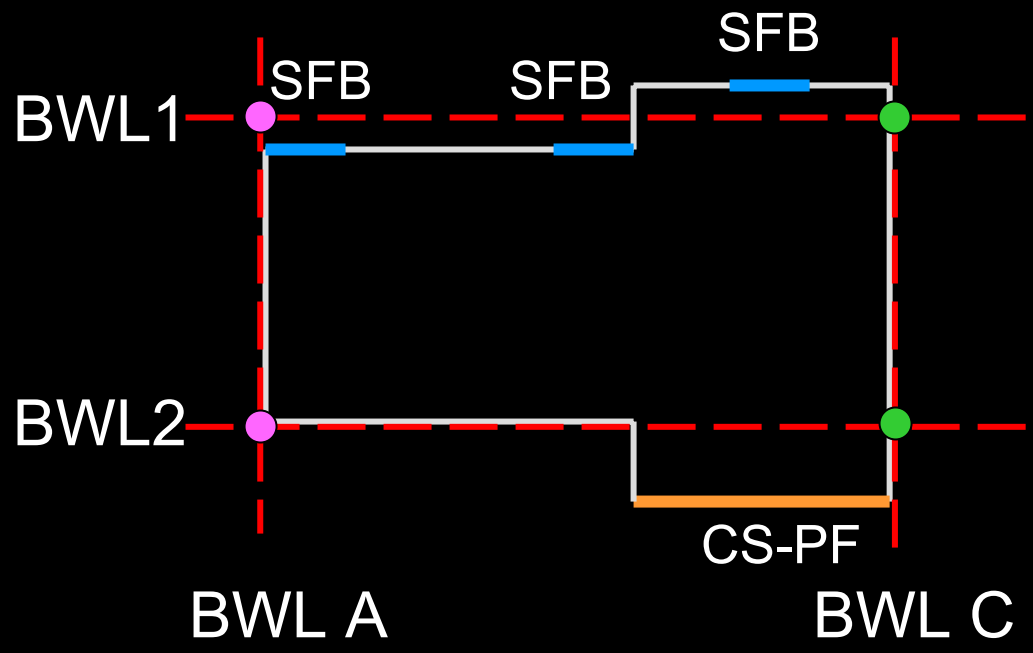
R602.10.1.3 Braced wall panel locations

- *BWPs may be offset 4' max. from the BWL*
  i.e. infers imaginary BWL is acceptable
- Total offset is 8'

Length of BWL A is measured to the projected intersection

Likewise BWL C



Whole house is sheathed with CS-WSP except where shown otherwise

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R602.10.1.4 Angled walls

Angled walls longer than 8’ long shall be considered a separate BWL

For angled walls less than 8’ long, the length of the BWLs shall be calculated using the projected corner.

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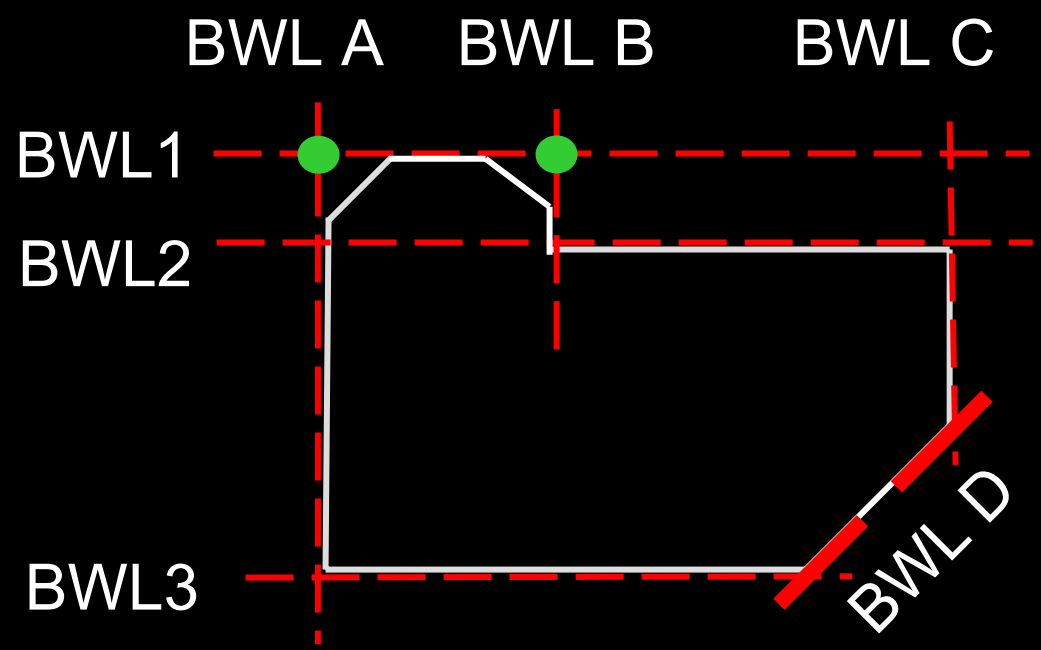
R602.10.1.4 Angled walls

For angles walls longer than 8’, the wall is a separate BWL

For angled walls less than 8’ long, the length of the BWLs shall be calculated using the “projected corner”.



Whole house is sheathed with C-WSP

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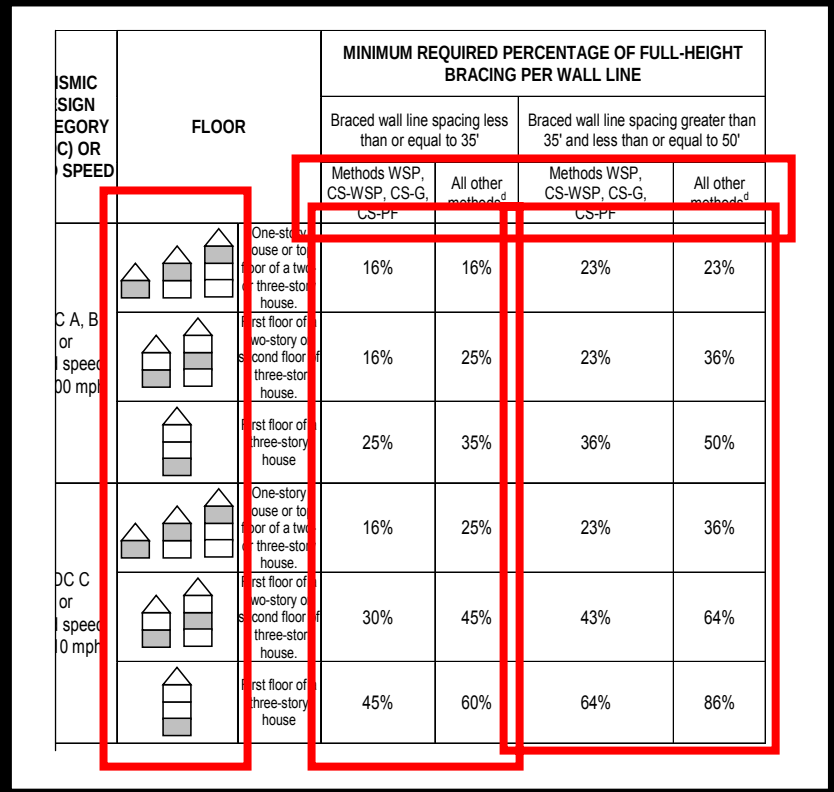
R602.10.1.5 Minimum percentage required

New percentage table:

- Eliminated seismic references
- Added icons for house floors
- Converted method # to abbreviations
- Shows percentage required for each method
  - based on 35’ BWL and 50’ BWL



ISMIC SIGN EGORY C) OR SPEED	FLOOR	MINIMUM REQUIRED PERCENTAGE OF FULL-HEIGHT BRACING PER WALL LINE			
		Braced wall line spacing less than or equal to 35'		Braced wall line spacing greater than 35' and less than or equal to 50'	
		Methods WSP, CS-WSP, CS-G, CS-PF	All other methods[d]	Methods WSP, CS-WSP, CS-G, CS-PF	All other methods[d]
C A, B or speed 00 mph	One-story house or top floor of a two- or three-story house.	16%	16%	23%	23%
	First floor of two-story or second floor of three-story house.	16%	25%	23%	36%
	First floor of three-story house	25%	35%	36%	50%
DC C or speed 0 mph	One-story house or top floor of a two- or three-story house.	16%	25%	23%	36%
	First floor of two-story or second floor of three-story house.	30%	45%	43%	64%
	First floor of three-story house	45%	60%	64%	86%

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R602.10.2.1 Intermittent methods

Intermittent method abbreviations

#1 Let in bracing	LIB
#2 Diagonal wall boards	DWB
#3 Wood structural panel	WSP
#4 Structural fiberboard sheathing	SFB
#5 Gypsum board	GB
#6 Particleboard sheathing	PBS
#7 Portland cement plaster	PCP
#8 Hardboard panel siding	HPS

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R602.10.2 Intermittent methods

Intermittent method abbreviations cont.

Alternate braced wall method previously (§602.10.6)	ABW
Intermittent portal frame (new alternative in 2006 IRC Portal frame with hold-downs based on APA TT-100)	IPF

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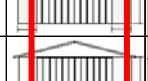
R602.10.2.1 Intermittent methods

All of the intermittent methods are organized in a new table:

- Abbreviation
- Material name
- Sheathing thickness
- Sketch
- Connection criteria

METHOD	MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA
LIB	Let-in-bracing	1x4 wood or approved metal straps at 45° to 60° angles		wood: 2-8d nails per stud metal: per manufacturer
DWB	Diagonal wood boards at 24" spacing	$^5/_8$"		2-8d (2½" x 0.113") nails or 2 staples, 1¾" per stud
WSP	Wood structural panel	$^3/_8$"		6d common (2"x0.113") nails at 6" spacing (panel edges) and at 12" spacing (intermediate supports) or 16 ga. x 1-$^3/_4$ staples: at 3" spacing (panel edges) and 6" spacing (intermediate supports)
SFB	Structural fiberboard sheathing	$^1/_2$" or $^{25}/_{32}$" for 16" stud spacing only		1½" galvanized roofing nails or 8d common (2½"x0.131) nails at 3" spacing (panel edges) at 6" spacing (intermediate supports)
GB	Gypsum board	$^1/_2$"		Nails at 7" spacing at panel edges including top and bottom plates; for exterior sheathing nail size, see Table R602.3(1); for interior gypsum board nail size, see Table R702.3.5
PBS	Particleboard sheathing	$^3/_8$" or $^1/_2$" for 16" stud spacing only		1½" galvanized roofing nails or 8d common (2½"x0.131) nails at 3" spacing (panel edges) at 6" spacing (intermediate supports)
PCP	Portland cement plaster	See Section R703.6		$^1/_2$", 11 gage, $^7/_{16}$" head nails at 16" spacing or $^7/_{16}$", 16 gage staples at 6" spacing
HPS	Hardboard panel siding	$^7/_{16}$"		0.092" dia., 0.225" head nails with length to accommodate 1½" penetration into studs at 4" spacing (panel edges), at 8" spacing (intermediate supports)
ABW	Alternate braced wall	See Figure R602.10.1(1)		See Figure R602.10.2.1(1)
IPF	Intermittent portal frame	See Figure R602.10.2.1(2)		See Figure R602.10.1(2)

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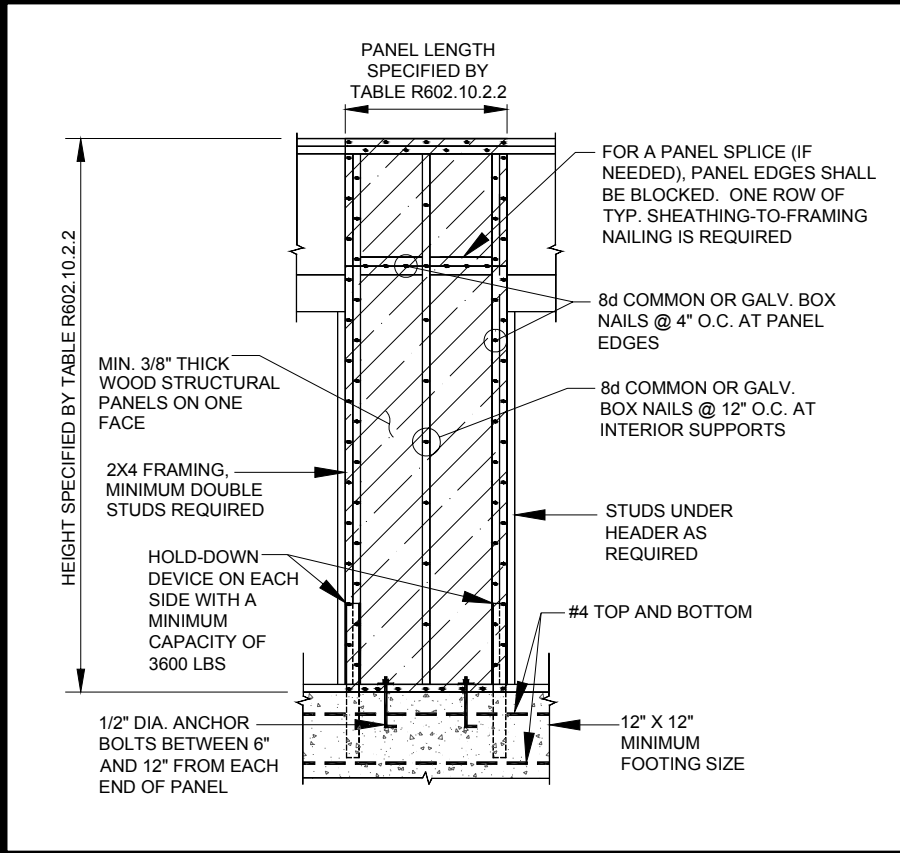
R602.10.2.1 Alternate braced wall

Replaced a long written description with a new Figure R602.10.2.1(1)



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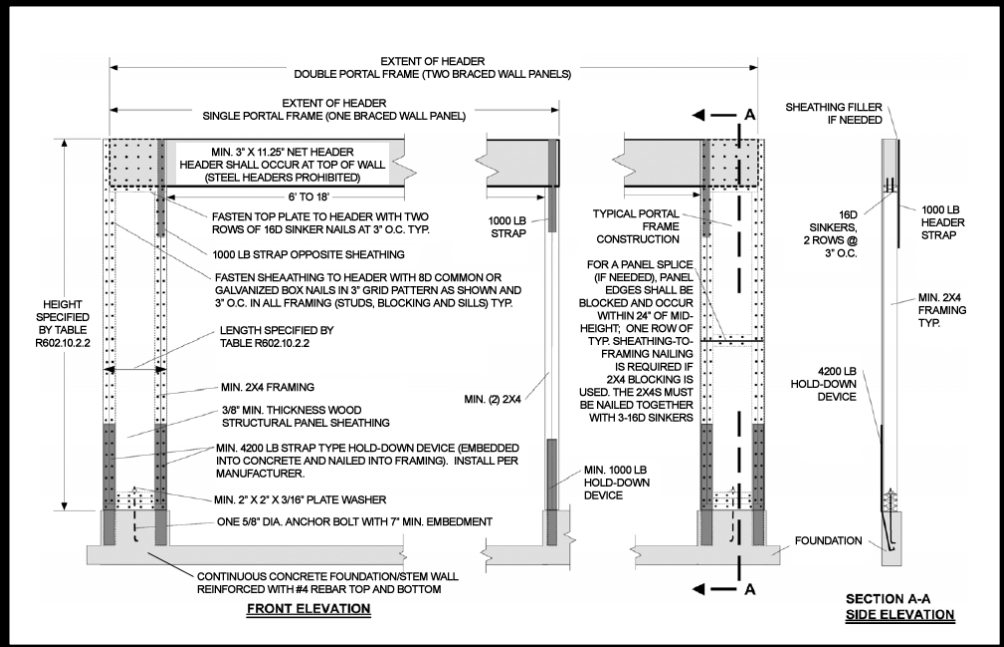
R602.10.2.1 Intermittent portal frame

New to the 2006 IRC

Based on APA portal frame with hold-downs

TT-100A

A new method IPF and Figure R602.10.2.1(2)



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R602.10.2.2 Minimum length

The minimum lengths of intermittent braced wall panels is consolidated in a new table (based on wall heights)

BRACING METHOD	FLOOR		HEIGHT OF INTERMITTENT BRACED WALL PANEL				
			8'	9'	10'	11'	12'
DWB, WSP, FB, GB[c], PBS, PCP, HPS	All		48"	48"	48"	53"	58"
ABW	All		28"	32"	34"	38"	42"
IPF		One-story house	16"	16"	16"	18"	20"
		First floor of a two-story house	24"	24"	24"	27"	29"

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R602.10.2.2 Partial credit

Walls less than 48” can contribute towards the percentage required based on new table.

Cannot use it for walls over 10’ tall.

ACTUAL LENGTH OF BRACED WALL PANEL	WALL HEIGHT		
	8'	9'	10'
48"	48"	48"	48"
42"	36"	36"	N/A
36"	27"	N/A	N/A

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R602.10.3 Continuous methods

Continuous method abbreviations

- Continuous wood structural sheathing (previously exception to method #3) — CS-WSP
- Continuous wood structural sheathing supporting a roof load only on a garage — CS-G
- Continuous portal frame (APA portal frame without hold-downs based on APA E-425) — CS-PF

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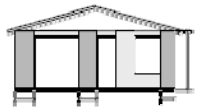
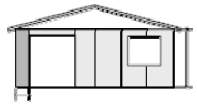
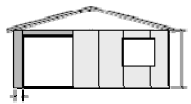
R602.10.3.1 Continuous methods

New table

METHOD	MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA
CS-WSP	Wood structural panel	$^3/_8$"		6d common (2"x0.113") nails at 6" spacing (panel edges) and at 12" spacing (intermediate supports) or 16 ga. x 1-$^3/_4$ staples: at 3" spacing (panel edges) and 6" spacing (intermediate supports)
CS-G	Wood structural panel supporting roof load only adjacent garage openings	$^3/_8$"		See Method CS-WSP
CS-PF	Continuous portal frame	See Figure R602.10.3.1		See Figure R602.10.3.1

Condensed Chart Shows

- Methods
- Percentages
- Calculated lengths
- Similar chart in handout for all the continuous methods

Note 100 mph

Separate chart for 110 mph

INTERMITTENT BRACING METHODS FOR WALLS UP TO 10' TALL (PER 2006 IRC)

<= 100 MPH

METHOD	FIGURE MINIMUM PANEL LENGHTS (CREDIT TOWARDS "REQUIRED")	MINIMUM MATERIAL PROPERTIES	CONNECTION CRITERIA	MINIMUM BRACING REQUIRED (FEET)											
				BWL Length (ft) (3)	BWL spacing (ft) 0' - 35'		BWL spacing (ft) 35' - 50'		BWL spacing (ft) 0' - 35'		BWL spacing (ft) 35' - 50'		BWL spacing (ft) 0' - 35'		BWL spacing (ft) 35' - 50'	
LIB (1) Let-in bracing	60° 45° 8'x4.6' 8'x8' 9'x5.2' 9'x9' 10'x5.8' 10'x10'	1x4 wood or approved metal straps between 45° to 60° angle	wood braces: 2-8d nails per stud; metal straps per manufacturer	10	16%	6.9	23%	6.9	25%	6.9	36%	6.9	NOT PERMITTED			
				20		6.9		6.9		6.9		7.1				
				30		6.9		6.9		7.5		10.7				
				40		13.8		13.8		13.8		14.3				
				50		13.8		13.8		13.8		17.9				
				60		20.7		20.7		20.7		21.4				
DWB Diagonal wood boards	Minimum panel length 4 ft (4' credit)	5/8" thick, spaced max. 24" o.c.	2-d (2-1/2"x 0.113") nails or 2 staples, 1-3/4" long per stud spaced max. 24" o.c.	10	16%	4.0	23%	4.0	25%	4.0	36%	4.0	35%	4.0	50%	0.0
				20		4.0		0.0		0.0		0.0		0.0		0.0
				30		5.0		0.0		0.0		0.0		0.0		0.0
				40		8.0		0.0		0.0		0.0		0.0		0.0
				50		8.0		0.0		0.0		0.0		0.0		0.0
				60		12.0		0.0		0.0		0.0		0.0		0.0
WSP Wood structural panel	Minimum panel length 4 ft (4' credit)	3/8" thick	6d common nails at 6" edge spacing and at 12" field spacing or 16 gage x 1-3/4" staples at 3" edge spacing and 6" field spacing	10	16%	4.0	23%	4.0	16%	4.0	23%	4.0	25%	4.0	36%	4.0
				20		4.0		0.0		4.0		0.0		0.0		0.0
				30		5.0		0.0		5.0		0.0		0.0		0.0
				40		8.0		0.0		8.0		0.0		0.0		0.0
				50		0.0		0.0		0.0		0.0		0.0		0.0
				60		12.0		0.0		12.0		0.0		0.0		0.0
SFB Structural fiberboard	Minimum panel length 4 ft (4' credit)	1/2" or 25/32" at 16" stud spacing only	1-1/2" galvanized roofing nails or 8d common nails at 3" edge spacing and at 6" field spacing	10	16%	4.0	23%	4.0	25%	4.0	36%	4.0	35%	4.0	50%	0.0
				20		4.0		0.0		0.0		0.0		0.0		0.0
				30		5.0		0.0		0.0		0.0		0.0		0.0
				40		8.0		0.0		0.0		0.0		0.0		0.0
				50		8.0		0.0		0.0		0.0		0.0		0.0
				60		12.0		0.0		0.0		0.0		0.0		0.0
GB (2) Gypsum board	4 ft (two sided) or 8 ft (one sided) (4' credit)	1/2" thick	Nails at 7" spacing at panel edges; for exterior sheathing nail size- see Table R602.3(1), for intierior gypsum board nail size - see Table R702.3.5	10	16%	4.0	23%	4.0	25%	4.0	36%	4.0	35%	4.0	50%	0.0
				20		4.0		0.0		0.0		0.0		0.0		0.0
				30		5.0		0.0		0.0		0.0		0.0		0.0
				40		8.0		0.0		0.0		0.0		0.0		0.0
				50		8.0		0.0		0.0		0.0		0.0		0.0
				60		12.0		0.0		0.0		0.0		0.0		0.0
PBS Particle board sheathing	Minimum panel length 4 ft (4' credit)	3/8" or 1/2" at 16" stud spacing only	0.092" dia., 0.225" head nails with length to accommodate 1½" penetration into studs at 4" edge spacing and at 8" filed spacing	10	16%	4.0	23%	4.0	25%	4.0	36%	4.0	35%	4.0	50%	0.0
				20		4.0		0.0		0.0		0.0		0.0		0.0
				30		5.0		0.0		0.0		0.0		0.0		0.0
				40		8.0		0.0		0.0		0.0		0.0		0.0
				50		8.0		0.0		0.0		0.0		0.0		0.0
				60		12.0		0.0		0.0		0.0		0.0		0.0
PCP Portland cement plaster	Minimum panel length 4 ft (4' credit)	See Section R703.6	11/2", 11 gage, 7/16" head nails at 16" spacing or 7/16" 16 ga staples at 6" spacing	10	16%	4.0	23%	4.0	25%	4.0	36%	4.0	35%	4.0	50%	0.0
				20		4.0		0.0		0.0		0.0		0.0		0.0
				30		5.0		0.0		0.0		0.0		0.0		0.0
				40		8.0		0.0		0.0		0.0		0.0		0.0
				50		8.0		0.0		0.0		0.0		0.0		0.0
				60		12.0		0.0		0.0		0.0		0.0		0.0
HPS Hardboard siding	Minimum panel length 4 ft (4' credit)	7/16"	0.092" dia., 0.225" head nails with length to accommodate 1½" penetration into studs at 4" edge spacing and at 8" field spacing	10	16%	4.0	23%	4.0	25%	4.0	36%	4.0	35%	4.0	50%	0.0
				20		4.0		0.0		0.0		0.0		0.0		0.0
				30		5.0		0.0		0.0		0.0		0.0		0.0
				40		8.0		0.0		0.0		0.0		0.0		0.0
				50		8.0		0.0		0.0		0.0		0.0		0.0
				60		12.0		0.0		0.0		0.0		0.0		0.0
ABW Alternate		3/8" wood structural	See Figure R602.10.2.1(1) Requires (2) 3600# hold-downs per panel													

BW spacing is limited to 50', if spacing exceeds 50', another BWL is required

ithin 12.5' corner

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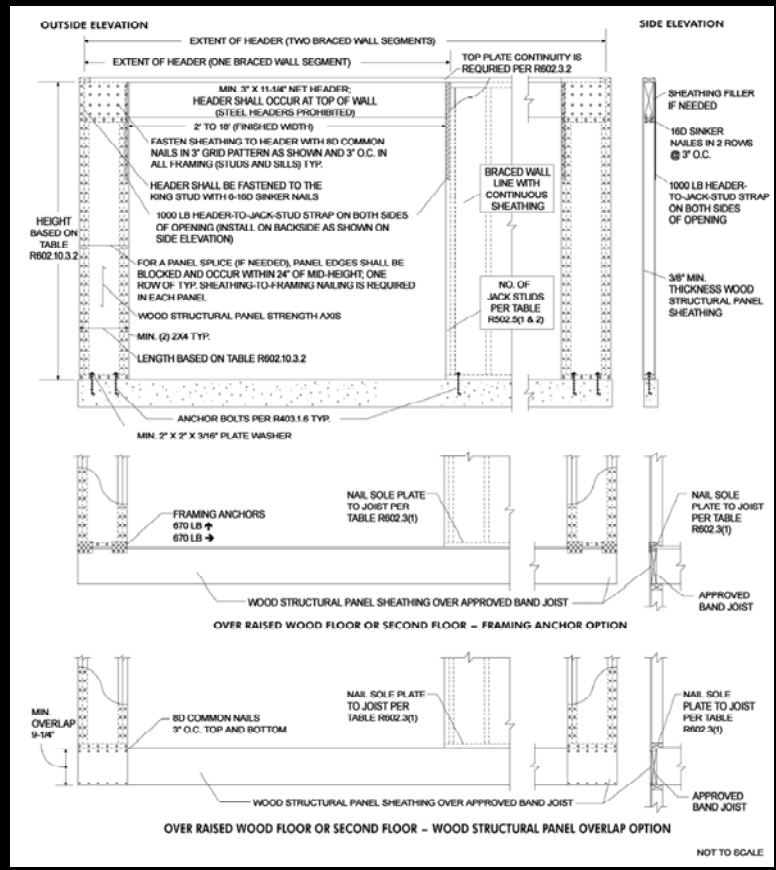
R602.10.3.1 Continuous methods

New method

Based on APA portal frame without hold-downs E-425

A new method CS-PF and Figure R602.10.2.1(2)



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R602.10.3.2 Length requirements

New table for lengths of braced walls adjacent to an opening

No more calculating...it is already done for you!

Method	ADJACENT CLEAR OPENING HEIGHT	WALL HEIGHT				
		8'	9'	10'	11'	12'
CS-WSP	64"	24"	27"	30"	33"	36"
	68"	26"	27"	30"	33"	36"
	72"	28"	27"	30"	33"	36"
	76"	29"	30"	30"	33"	36"
	80"	31"	33"	30"	33"	36"
	84"	35"	36"	33"	36"	36"
	88"	39"	39"	36"	38"	36"
	92"	44"	42"	39"	41"	36"
	96"	48"	45"	42"	43"	39"
	100"		48"	45"	47"	42"
	104"		51"	48"	48'	44"
	108"		54"	51"	51"	47"
	112"			54"	53"	50"
	116"			57"	56"	53"
	120"			60"	58"	55"
	124"				61"	58"
	128"				63"	61"
	132"				66"	64"
	136"					66"
	140"					69"
	144"					72"
CS-G	≤ 120"	24"	27"	30"	33"	36"
CS-PF	≤ 120"	16"	18"	20"	22"	24"

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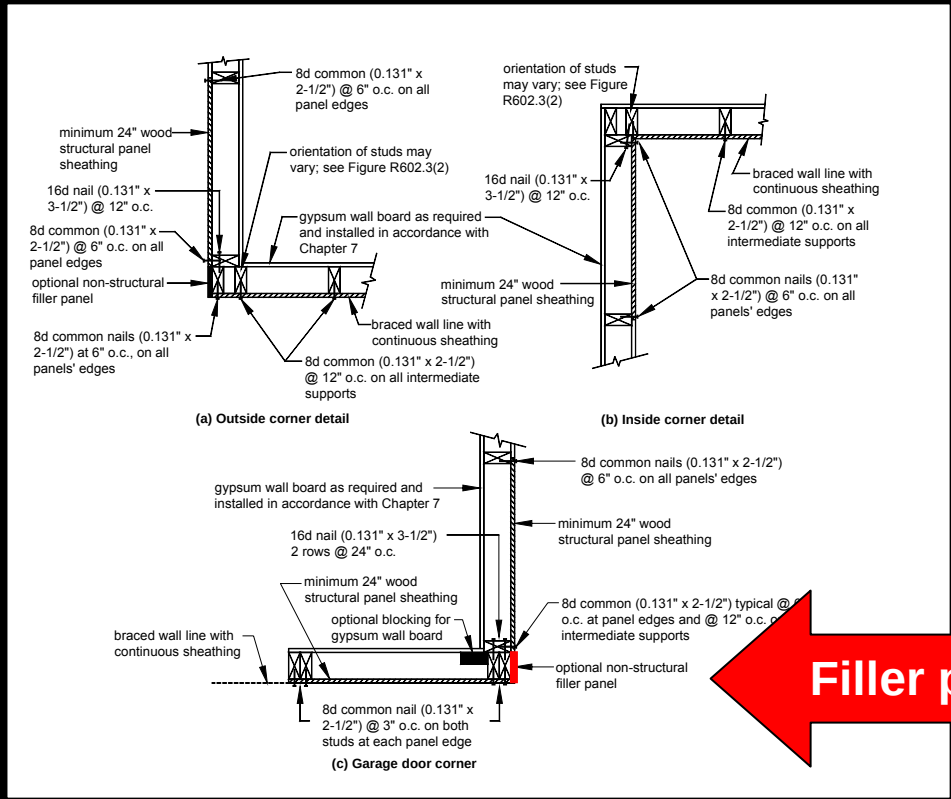
R602.10.3.3 “Cont.” corner details

New corner detail allows you to use a 31/2” filler panel.

There are four new corner detail options.



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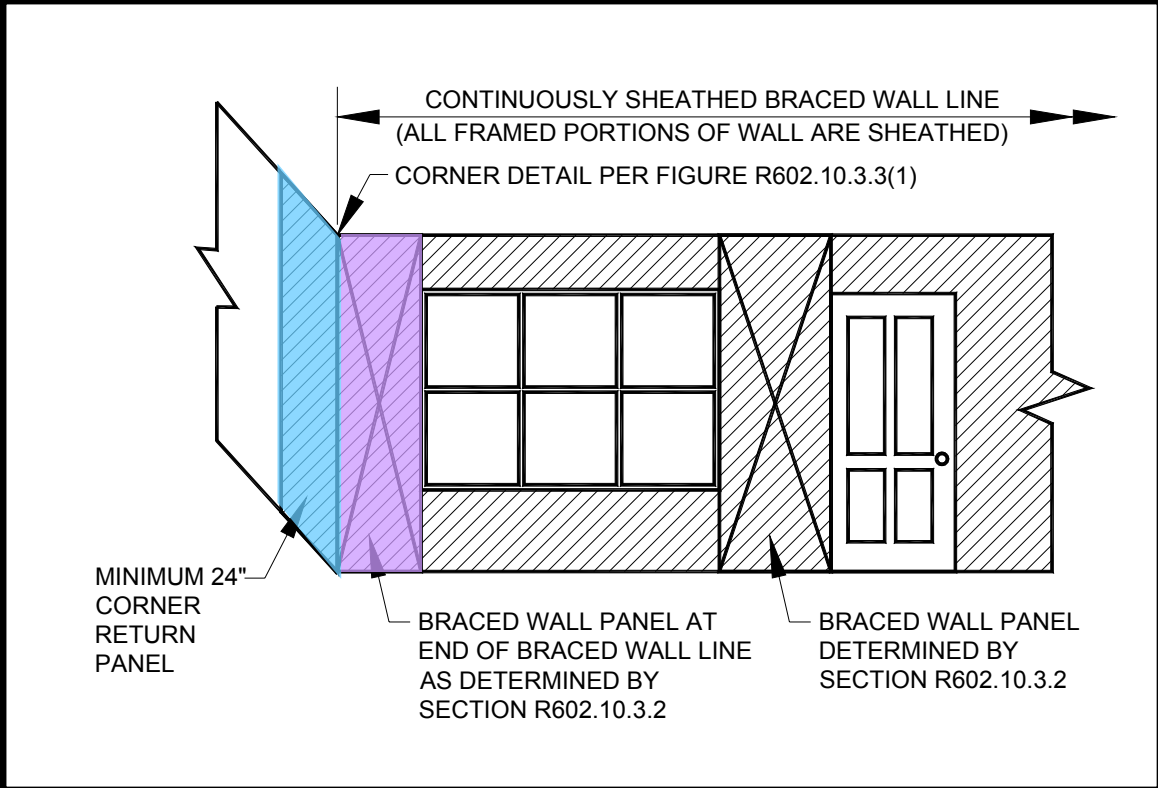
R602.10.3.3 “Cont.” corner details

Option 1:

A qualifying panel on the end of the BWL and

And a 24” return corner panel



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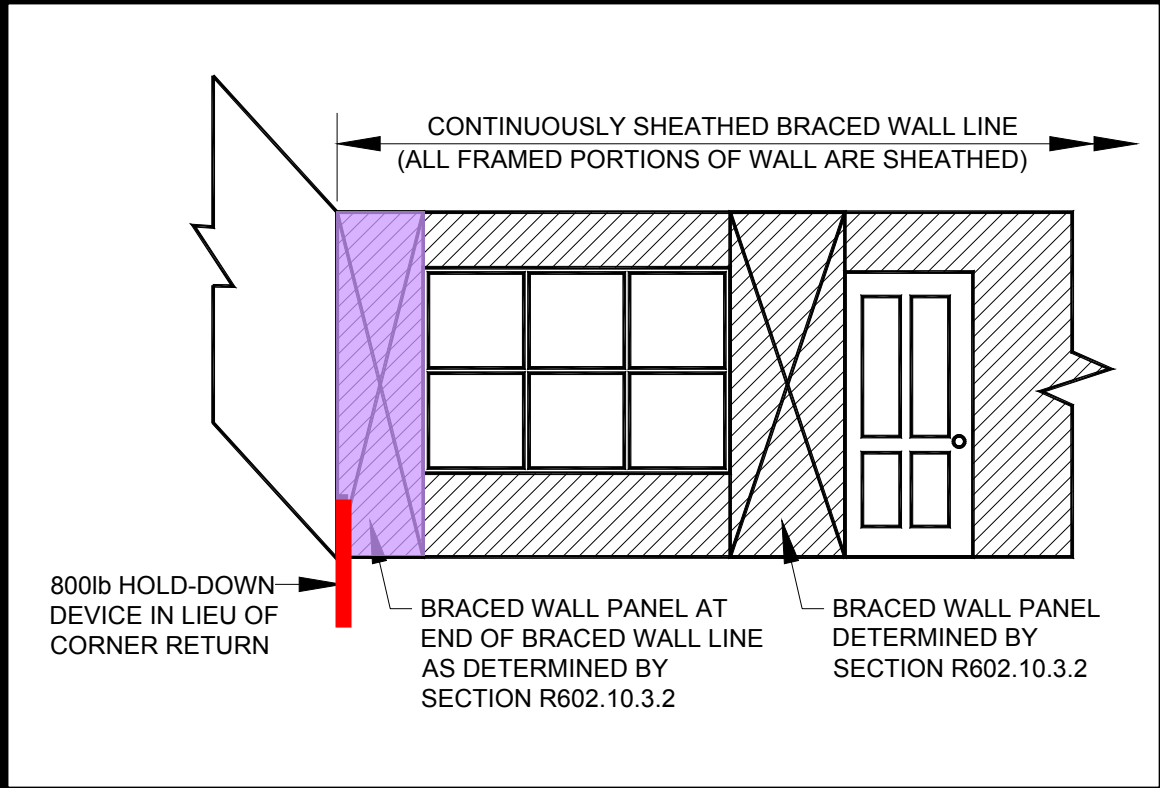
R602.10.3.3 “Cont.” corner details

Option 2:

A minimum length panel on the end of the BWL

No 24” return corner panel

(an 800# hold-down instead)



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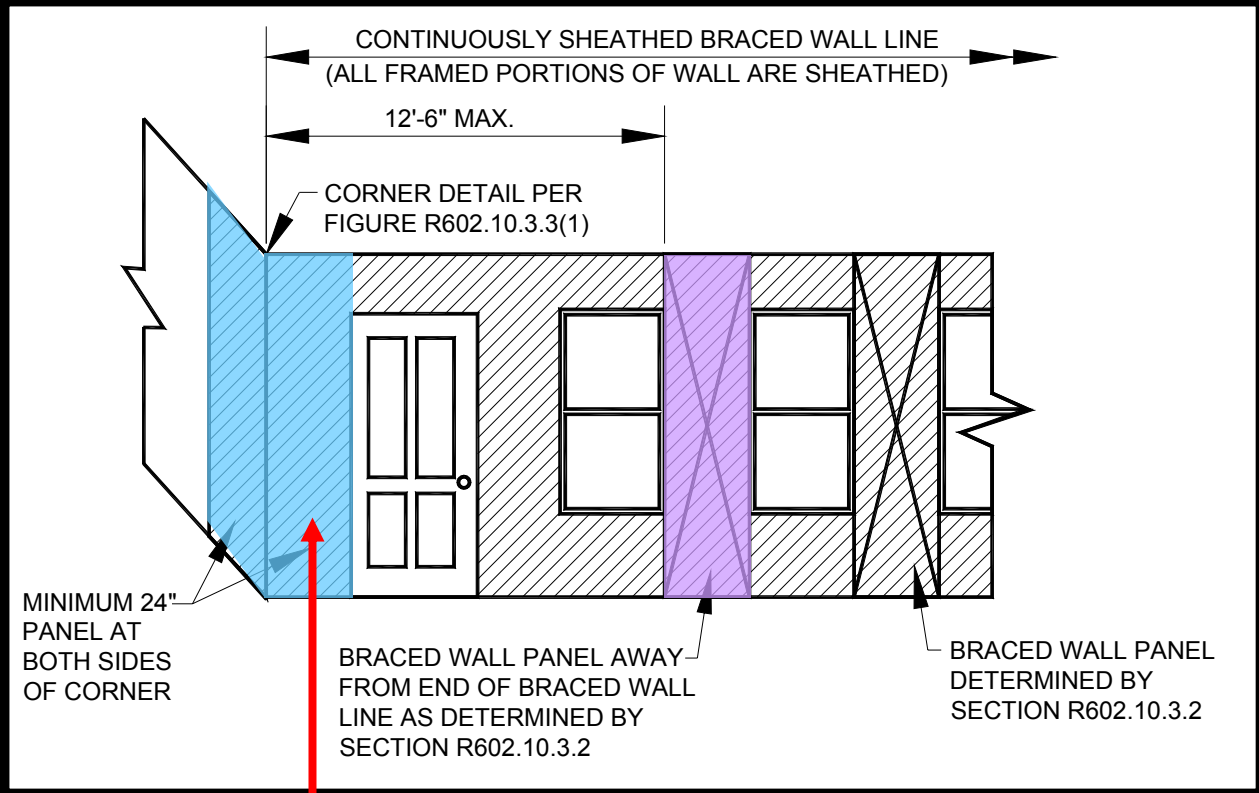
R602.10.3.3 “Cont.” corner details

Option 3:

A qualifying panel not on the end, but within 12.5’ of the end of the BWL

And 24” return corner panels on each side of the corner



This is a “non-qualifying” 24” long panel

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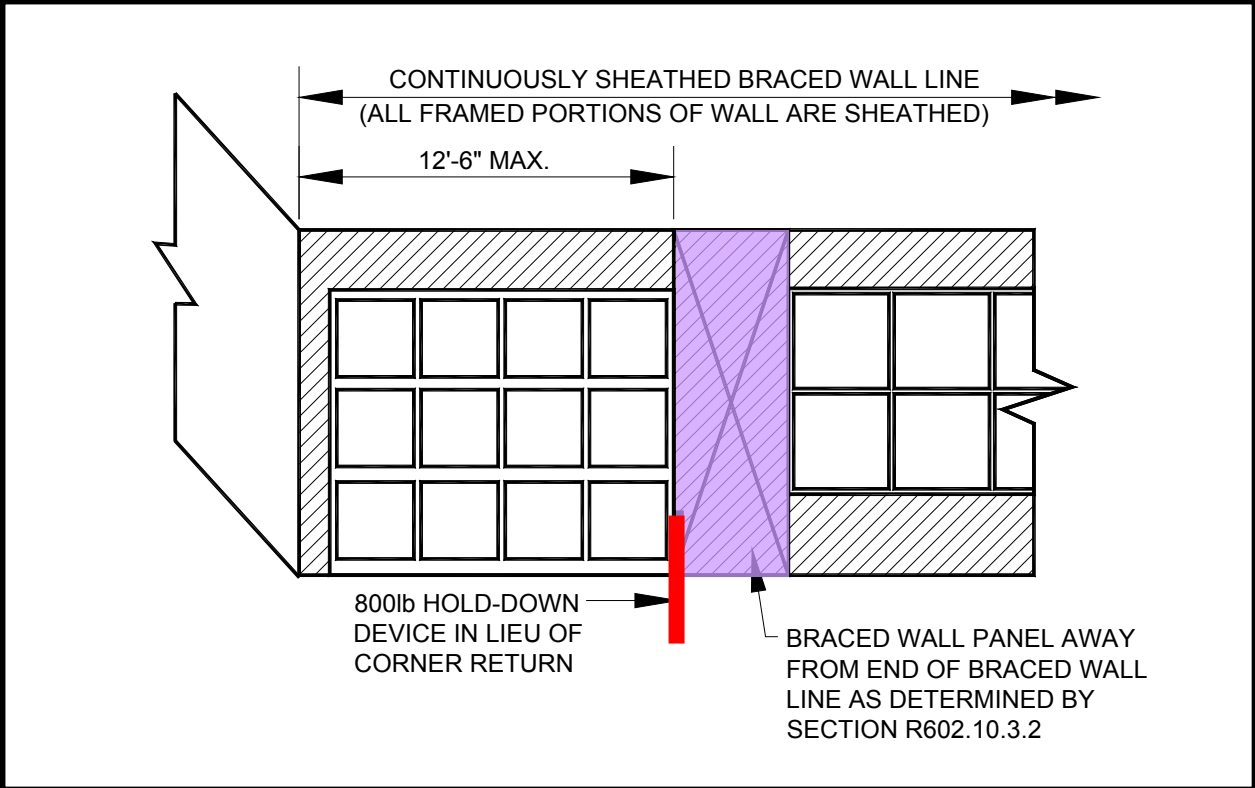
R602.10.3.3 “Cont.” corner details

Option 4:

A minimum length panel not on the end, but within 12.5’ of the end of the BWL

No 24” return corner panel

(an 800# hold-down instead)



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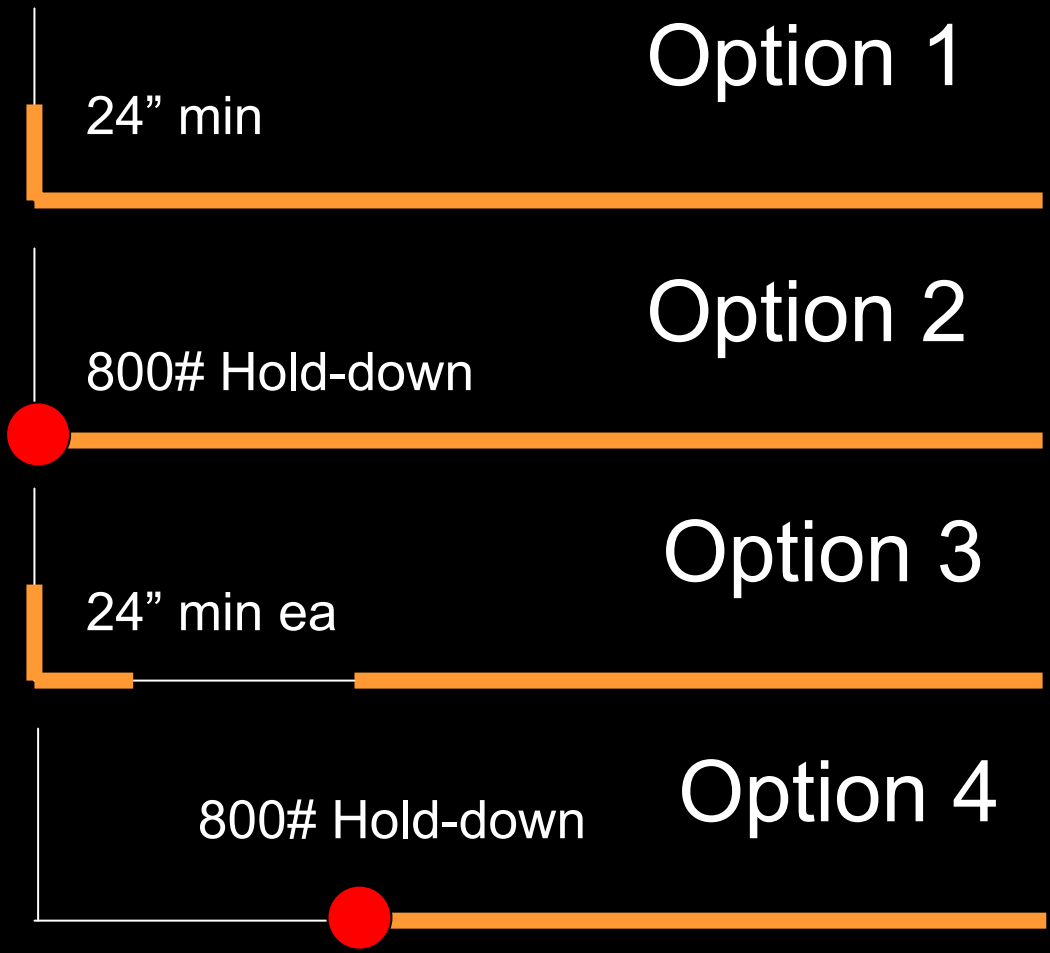
R602.10.3.3 “Cont.” corner details

In summary:

4 options for continuous return walls.

The plans must show the design and hold-downs



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R602.10.4 Finish materials

All braced wall panels will have ½" gyp board on the side opposite the braced wall sheathing.

Exception:

1. Methods GB, ABW, IPF and CS-WSP
2. Or when an equivalent in-plane resistive material is provided,
3. If the gyp board is omitted, then the amount of bracing required along the BWL must be increased by 1.5 x

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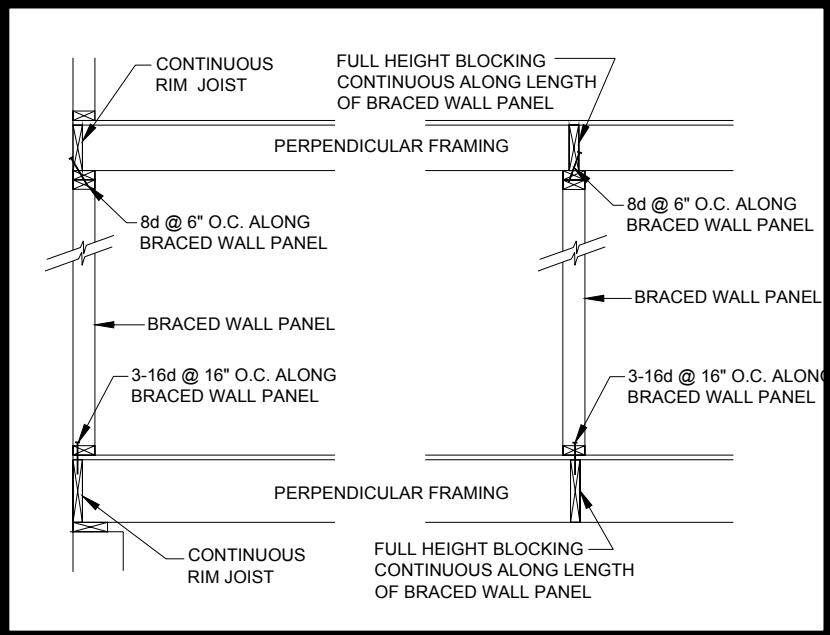
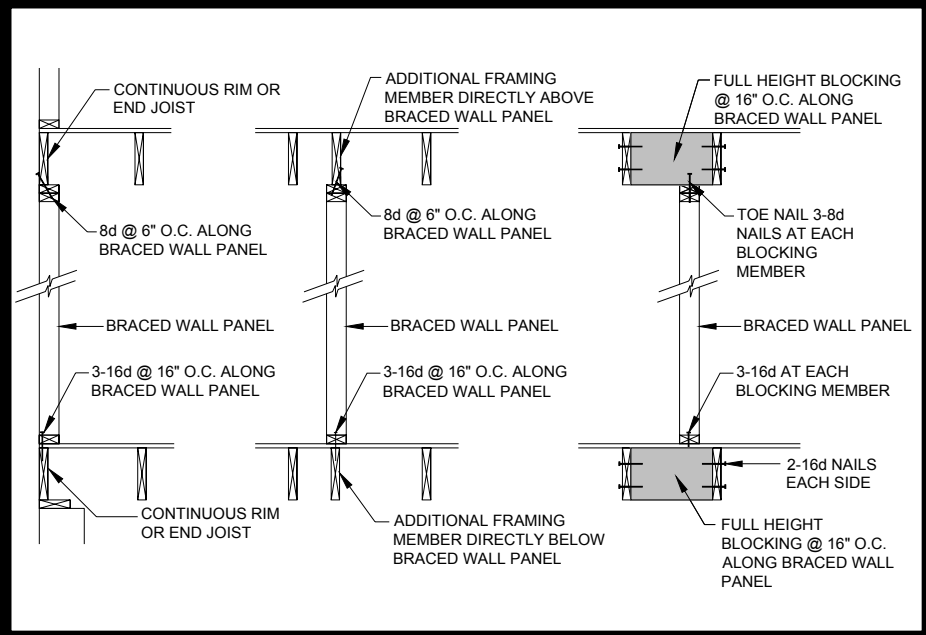
R602.10.5 Connections

BWPs shall be connected to floors below and ceilings above according to new figures



Perpendicular joists



Parallel joists

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R602.10.6 Support

1. BWPs will be allowed to be supported on cantilevered floors if the joists are blocked at the bearing wall.

2. BWPs supported on piers will have to be engineered.

Exception: Not required for "conversions" of decks or screened porches to Florida rooms.

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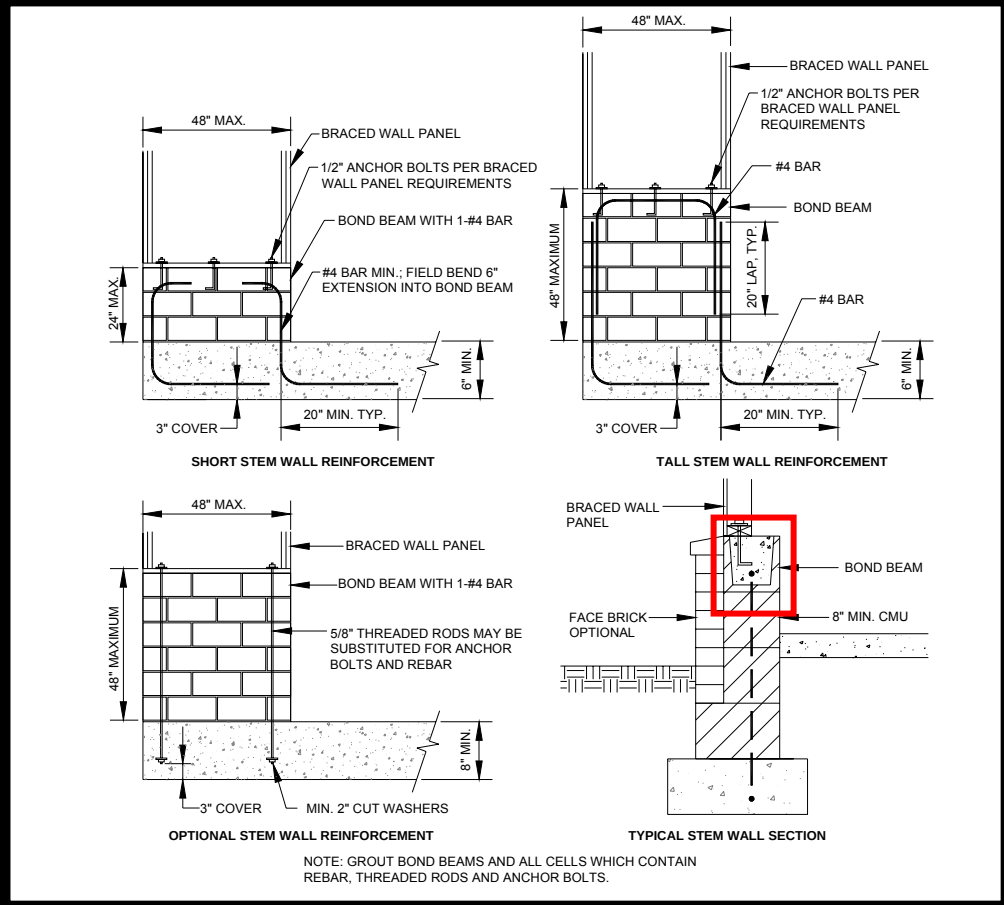
R602.10.6 Support

3. Braced wall panels supported on independent walls 48” or less in length shall be constructed with an 8” bond beam and rebar into the footing per the new figure.



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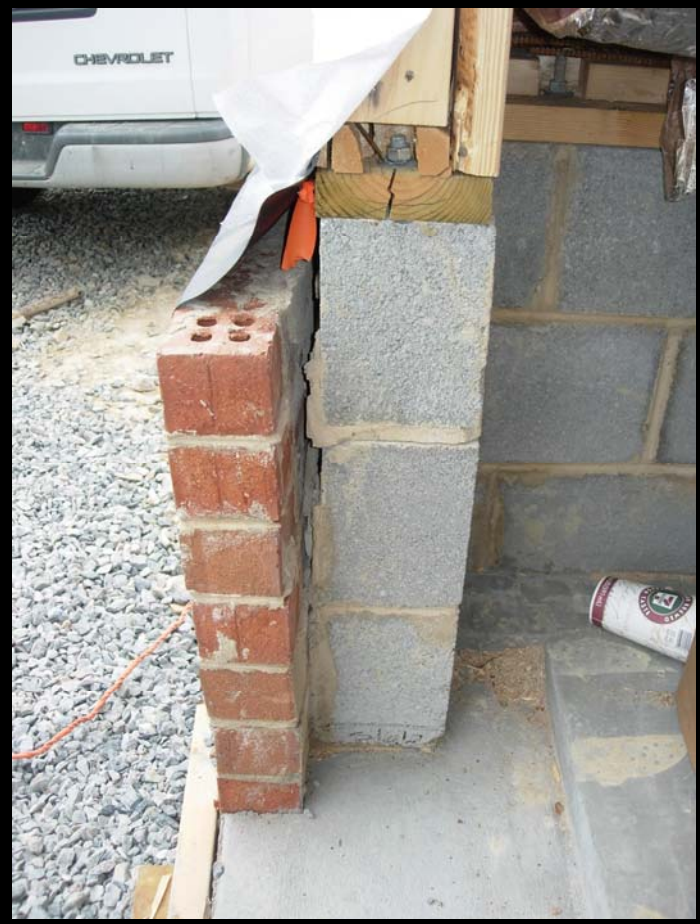
R602.10.6 Support

No longer allowed



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Chapter 6 - Other topics

We are not going to cover any changes to

R603 Steel wall construction,

R606 Masonry construction,

R607 Unit masonry construction

R611 ICF construction.

If you have interest in this section, it would be worth reading.

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Chapter 7 Wall covering

2006 IRC Code Update Training

Table R703.4 Siding attachment chart

2003 IRC:

Walls with vinyl siding did not require sheathing paper.

2006 IRC:

A water –resistive barrier (felt, Tyvek, other approved sheathing paper) is required under all types of exterior wall coverings, including vinyl siding.

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Table R703.4 Siding attachment chart

- Approved house wraps (equivalent to 15# felt) installed per the manufacturer's instructions shall satisfy the requirements.
- All fasteners shall have a corrosion-resistant coating.

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R703.11 Vinyl siding

2003 IRC:

Not mentioned

2006 IRC:

Vinyl siding shall be:

- Labeled as conforming to VSI specs
- And shall be installed per the manufacturer's installation requirements.

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Chapter 8: Roof- Ceiling Construction

2006 IRC Code Update Training

R802.2 Design and Construction

2003 IRC:

Prescriptive details in the code applied to all houses.

2006 IRC:

The framing details apply to roofs with a pitch of 3:12 or greater.

Any pitch less than 3:12 will require the roof to be constructed as a floor and roof covering must be of a type suitable for the slope.

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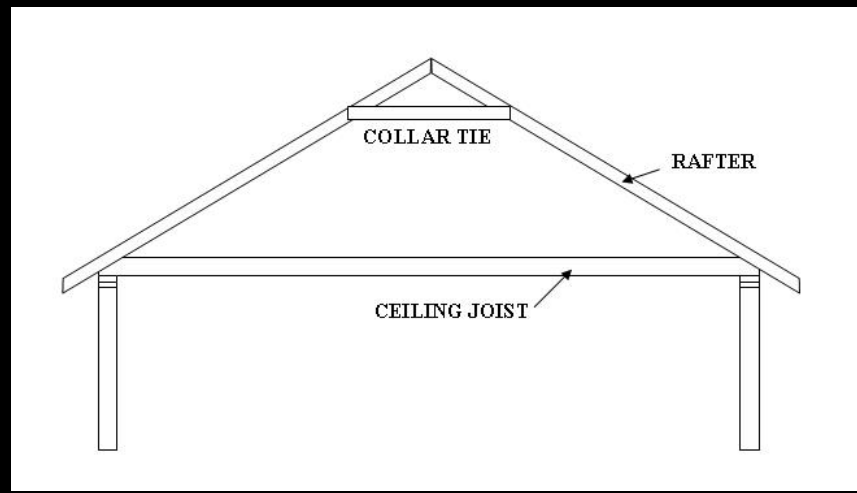
R802.3.1 Collar ties

2006 IRC:

Revised prescriptive details are provided for ceiling joist and rafter connections. **Collar ties** must be provided and shall be spaced a maximum of 4’ on center.



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R804 Steel Roof Framing

Any changes made from the 2003 to the 2006 IRC regarding this section are not included in this module. If your project will involve this type of construction, please refer to the applicable sections in the code

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Chapter 10: Chimneys and Fireplaces

2006 IRC Code Update Training

R1002 Masonry Heaters

2003 IRC:

Not mentioned

2006 IRC:

New definition for *masonry heaters:* "heating appliance constructed of solid masonry or concrete designed to absorb and store heat from a solid fuel fire built in the firebox by routing the gases through the internal heat exchange channels in which the flow path downstream of the firebox may include flow in a horizontal or downward direction before entering the chimney and which delivers heat by radiation from the masonry surface of the heater

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R1002 Masonry Heaters

What distinguishes a *masonry heater* from a *fireplace* is its ability to store a large amount of heat. This means that you can rapidly burn a large charge of wood without overheating your house. The heat is stored in the masonry thermal mass, and then slowly radiates into your house for the next 18 to 24 hours.

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R1002 Masonry Heaters

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R1003.19 Chimney Fireblocking

2003 IRC:

Fireblocking between chimneys and wood joists, beams or headers was required.

2006 IRC:

Fireblocking between chimneys and wood joists, beams or headers must be self supporting or placed on strips of metal lath laid across the spaces between combustible material and the chimney.

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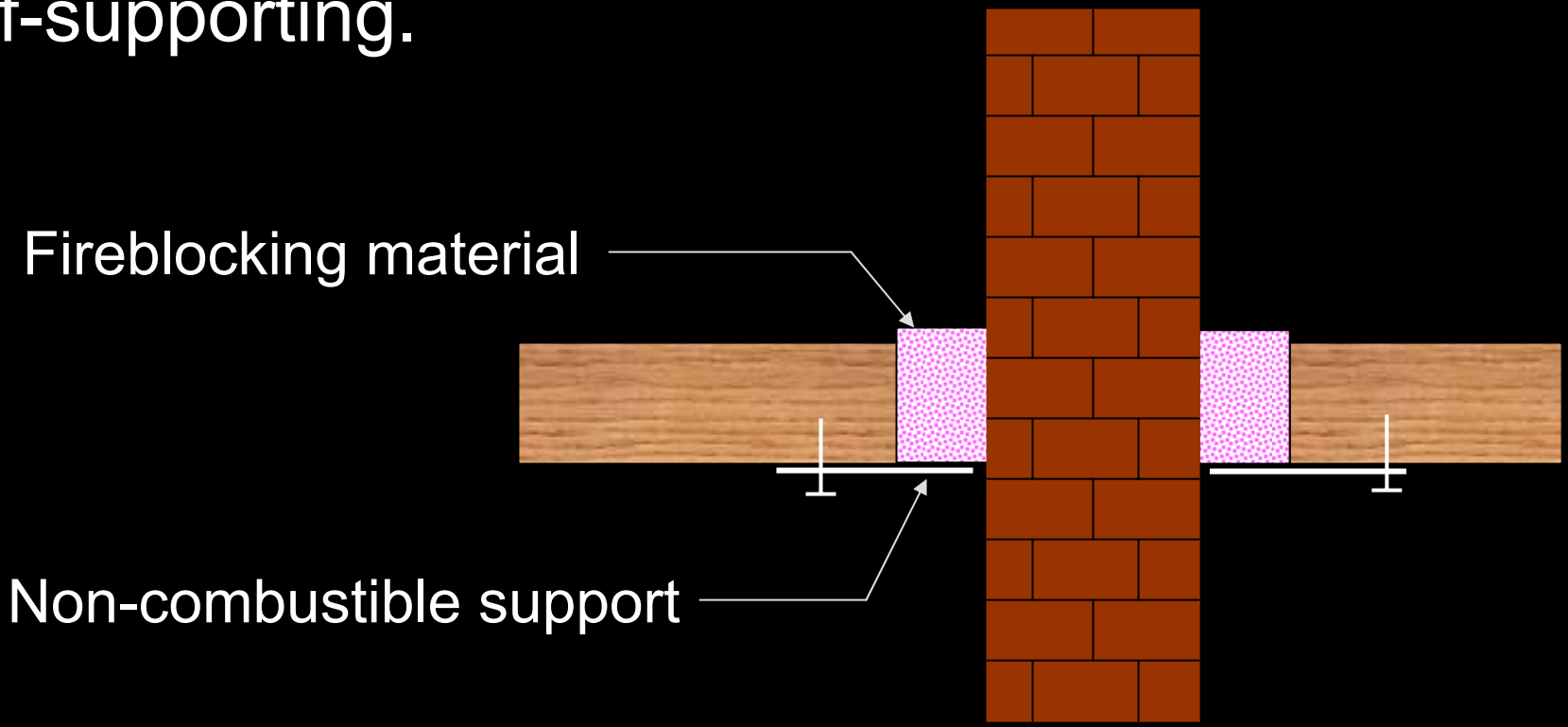
R1003.19 Chimney Fireblocking

Fireblocking shall be self-supporting.



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Chapter 11: Energy Efficiency

2006 IRC Code Update Training

Chapter 11: Energy Efficiency

2003 IRC:

Prescriptive R-values were provided.

2006 IRC:

This whole section was rewritten.

- New prescriptive R-values have been inserted.
- The whole state of Virginia has the same insulation requirements.

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Chapter 11: Energy Efficiency

Walls (R-value)	13
Floors (R-value)	19
Ceiling (R-value)	**38**
Basement Walls (R-value)	**10** cont ext or 13 in stud wall
Crawl Space Walls (R-value)	10 cont ext or 13 in stud wall
Slab (R-value)	**10**, 2ft
Mass Wall (R-value)	5
Windows (U-factor)	0.40
Skylights (U-factor)	0.60
Doors (U-factor)	0.40

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Chapter 11: Energy Efficiency

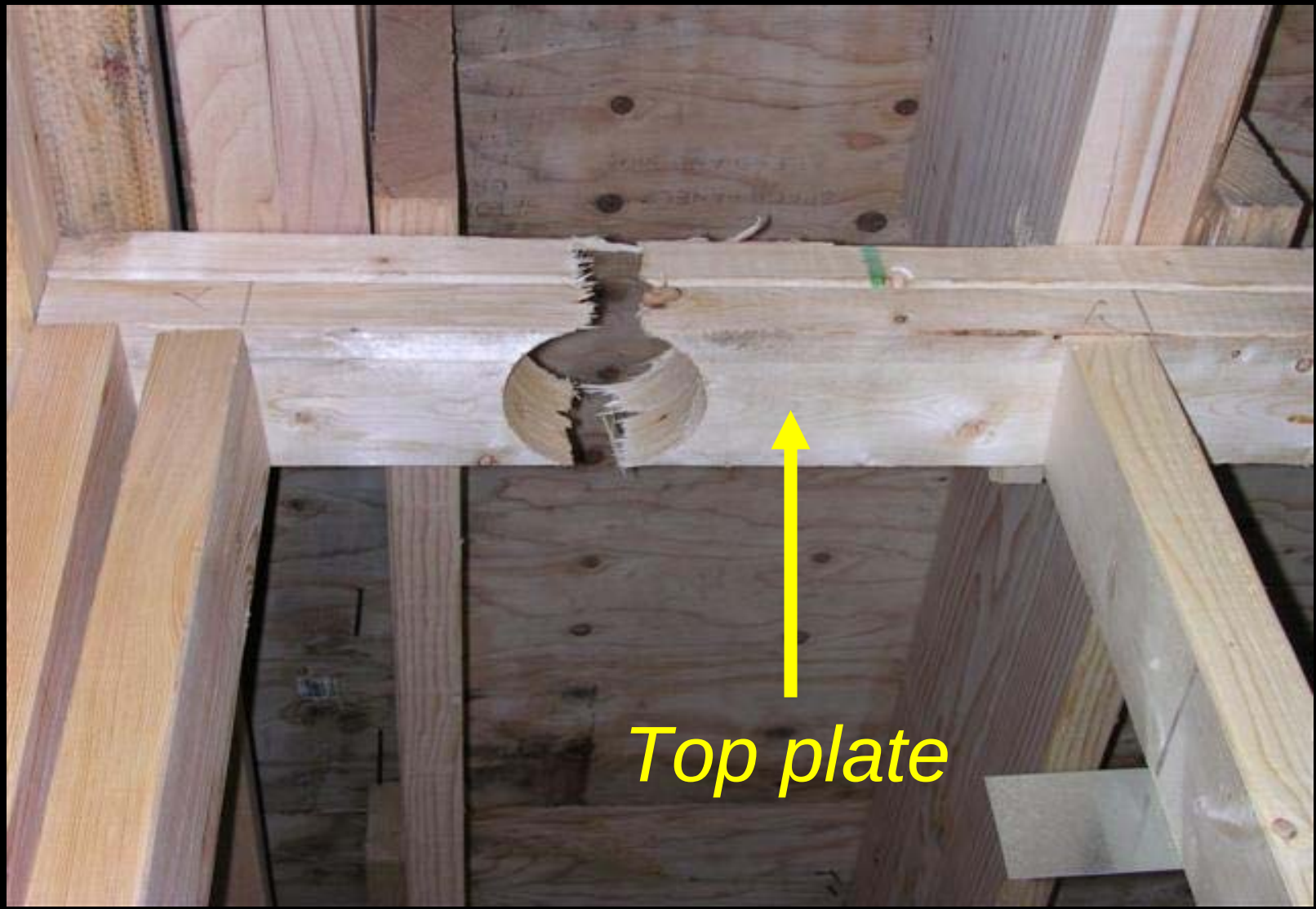
2003 IRC:

Insulation vapor barrier was required.

2006 IRC:

Insulation vapor barrier no longer required.

Exception: where R-30 extends over the top plate of the exterior wall.


Top plate

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Reference materials

For information and purchase of code books see the following:

ICC website: www.iccsafe.org
VBCOA website: www.vbcoa.org

Note: There will be a 2006 IRC code book published by ICC (and available for purchase through them) that will integrate all of the V-USBC changes.

That's All Folks